APR/FY06

TOOELE ARMY DEPOT

UTAH

Army Defense Environmental Restoration Program Installation Action Plan

Final 6 September 2006

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Installation Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

In an effort to coordinate planning information between the restoration manager, US Army Environmental Center (USAEC), BRAC Division, Tooele Army Depot, executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following agencies contributed to the formulation and completion of this Installation Action Plan at the IAP Workshop held 23 March 2006:

EEI for USAEC
Tooele Army Depot
US Army Corps of Engineers
US Army Environmental Center
US EPA, Region 8
Utah DEQ/DSHW
Utah DEQ/DERR

Acronyms & Abbreviations

AED	Ammunition and Equipment Directorate
AEDB-R	Army Environmental Database - Restoration
ALF	Abandoned Landfill
AMC	Army Materiel Command
ADRA	Ammunition Demilitarization and Renovation Area
BCT	BRAC Cleanup Team
bgs	below ground surface
bldg	building
BRAC	Base Realignment and Closure Action
CAMU	Corrective Action Management Unit
CC	Compliance-Related Cleanup
CCR	Covenants, Conditions and Restrictions
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CMI	Corrective Measure Implementation
CMI(C)	Corrective Measure Implementation - Construction
CMI(O)	Corrective Measure Implementation - Operations
CMS	Corrective Measure Study
COC	Contaminate of Concern
CS	Confirmatory Samples
CTC	Cost-To-Complete
CTT	Closed, Transferring and Transferred
cy	cubic yards
DD	Decision Document
DERA	Defense Environmental Restoration Account
DNT	solvent breakdown product
DRMO	Defense Reutilization and Marketing Office
DSERTS	Defense Site Environmental Restoration Tracking System
EECA	Engineered Evaluation/Cost Estimate
EPA	(United States) Environmental Protection Agency
ER,A	Environmental Restoration, Army (formally called DERA)
ESD	Environmental Systems Design
FFA	Federal Facility Agreement
FFSRA	Federal Facility Site Remediation Agreement
FS	Feasibility Study
ft	foot or feet
FY	Fiscal Year
IAP	Installation Action Plan
IC	Institutional Controls
IMA	Installation Management Agency
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ITR	Independent Technical Review
IWL	Industrial Waste Lagoon
lb	pound
LTM	Long Term Management
LUC	Land Use Controls

Acronyms & Abbreviations

MCL	Maximum Contaminant Level
MMRP	Military Munition Response Program
MNA	Monitored Natural Attenuation
NE	Not Evaluated
NPL	National Priorities List
OB/OD	Open Burning/ Open Detonation
OU	Operational Unit
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyl
PRG	Proposed Remediation Goals
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RAC	Risk Assessment Code
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RDA	Redevelopment Agency
RDX	type of explosive
REM	Removal
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RIP	Remedy in Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SARA	Superfund Amendments and Reauthorization
SI	Site Inspection
SVOC	Semi-Volatile Organic Compounds
SWMU	Solid Waste Management Unit
TAPP	Technical Assistance for Public Participation
TCE	Trichloroethylene
TEAD	Tooele Army Depot
TNT	type of explosive
TPH	Total Petroleum Hydrocarbons
TRC	Technical Review Committee
UDEQ	Utah Department of Environmental Quality
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
USAEHA	United States Army Environmental Hygiene Agency (replaced by CHPPM)
USATHAMA	United States Army Toxic and Hazardous Material Agency (replaced by AEC)
ug/l	micrograms per liter
UXO	Unexploded Ordnance
VOC	Volatile Organic Compounds

Installation Information

Installation Locale: TEAD is located approximately 35 miles southwest of Salt Lake City, in Tooele County, Utah. The installation covers an area of 23,732 acres and is located off of Utah Highway 36, just west of the City of Tooele. The working population is approximately 750 personnel. The City of Grantsville (population 6,000) is situated just beyond the northwest boundary and the City of Tooele (population 27,000) is located immediately northeast of TEAD.

Installation Mission: TEAD's mission is to provide for the receipt, storage, issue, maintenance, and demilitarization of conventional ammunition, along with the development, manufacture, and fielding of ammunition peculiar equipment.

Lead Organization:
Installation Management Agency, North West Region

Lead Executing Agency: Corps of Engineers

Regulatory Participation:
Federal: U.S. Environmental Protection Agency, Region VIII, Federal Facilities Program, Office of Ecosystem Protection and Remediation
State: State of Utah, Department of Environmental Quality (UDEQ), Division of Solid and Hazardous Waste and Division of Environmental Response and Remediation

National Priorities List (NPL) Status: NPL Installation, Oct 90
Technical Review Committee, Feb 88
Corrective Action Permit, Jan 91 (Re-issued Feb 2001)
Federal Facility Agreement, Sep 91
Restoration Advisory Board formed in 1994

Projected Dates for Construction Completion: Construction Complete – 2008

Projected Date for NPL Removal: De-list From NPL – 2015+

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status: Tooele Army Depot has an active RAB.

Installation Program Summaries

IRP

Primary Contaminants of Concern: VOCs, Explosives, Metals, PCBs and Petroleum Constituents
Affected Media of Concern: Soil and Groundwater
Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 2007/2025
Funding to Date (up to FY05): $108,828.41K (Active + BRAC)
Current Year Funding (FY06): $ 3,711K
Cost-to-Complete (FY07+): $ 22,270K

MMRP

Primary Contaminants of Concern: UXO
Affected Media of Concern: Soil
Estimated Date for RIP/RC: 2017/2032
Funding to Date (up to FY05): $ 281K
Current Year Funding (FY06): $ 29K
Cost-to-Complete (FY07+): $ 29,230K

BRAC

Primary Contaminants of Concern: VOCs, SVOCs, Metals, PCBs, and petroleum Constituents
Affected Media of Concern: Soil and Groundwater
Estimated Date for RIP/RC: 2009/2012
Funding to Date (up to FY05): $108,828.41K (Active + BRAC)
Current Year Funding (FY06): $ 811K
Cost-to-Complete (FY07+): $ 7,195K

Installation Historic Activity:

Tooele Army Depot (TEAD) is an active U.S. Army IMA, NW Region Facility. TEAD's mission is to provide for the receipt, storage, issue, maintenance, and demilitarization of conventional ammunition. TEAD is one of the major ammunition storage facilities in the United States and occupies 23,732 acres. TEAD's past maintenance missions have included the repair of tactical wheeled vehicles and power generation equipment. Along with these missions, secondary components of these items have been rebuilt, including engine and power trains. In 1993, TEAD's maintenance mission was placed on the base realignment and closure (BRAC) list and the realignment of the maintenance mission was completed in September 1995. The excess BRAC property (1717 acres and over 200 buildings) was transferred to the Tooele City Redevelopment Agency in December 1998 under the Section 334 Early Transfer Authority.

TEAD was established on 7 April 1942 as the Tooele Ordnance Depot. Construction of the facilities, including igloos, magazines, administration buildings, military and civilian housing, roads, hardstands for vehicle storage, and other allied appurtenances, was completed in January 1943. More than 1,625,000 tons of material were shipped and received by TEAD during World War II.

The installation was designated a sub-depot of the Ogden Arsenal in March 1947. In November 1949, TEAD was again redesignated as a full depot and the Ogden Arsenal was designated as a sub-depot under TEAD. In 1955, the Ogden facility was discontinued and its mission transferred to Tooele. On 30 March 1961, the guided missile rebuild, tires and tubes rebuild and calibration of test equipment missions from Benicia Arsenal and Mt. Ranier Ordnance Depot were transferred to TEAD. In June 1970, the maintenance mission responsibilities for topographic equipment, troop support items, construction equipment, power generators and serviceable assets were transferred from Granite City Army Depot. In the mid-1970s, the following four depot activities were assigned to TEAD for administration: Umatilla, Navajo, Fort Wingate and Pueblo.

In 1993, TEAD's maintenance and supply functions were identified for transfer to other installations by the Base Realignment and Closure (BRAC) Commission. With two of the remaining missions being ammunition logistics and the design/fabrication of ammunition equipment, TEAD was designated as a Tier 1 ammunition storage facility in 1995. This made it the primary depot for ammunition operations in the western United States.

The Army is investigating areas of the installation potentially contaminated by these previous activities by implementing its environmental response authority under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Superfund Amendments and Reauthorization Act (SARA) and the Resource Conservation and Recovery Act (RCRA).

A Federal Facility Agreement (FFA) between the Utah Department of Environmental Quality (UDEQ), U.S. Environmental Protection Agency (EPA) Region VIII and the Army was signed in September 1991. Seventeen of the waste sites at TEAD were designated as CERCLA sites in this Agreement. In January 1991, TEAD was issued a RCRA Post

Closure and Corrective Action Permit. This Permit basically serves the same purpose as the FFA. The Corrective Action portion of the Permit addresses 9 known releases Solid Waste Management Units (SWMU's) and 31 suspected releases SWMUs. Thus, 17 sites are being handled under CERCLA/SARA with the EPA as the lead regulatory agency and 40 are being addressed under RCRA with the State of Utah as the lead agency.

Current Activity:

TEAD's mission is to provide for the receipt, storage, issue, maintenance, and demilitarization of conventional ammunition, along with the development, manufacture, and fielding of ammunition peculiar equipment.

TEADs restoration program is being executed under the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). TEADs CERCLA response actions are being conducted in accordance with a Federal Facilities Agreement (FFA), with EPA being the lead agency. The FFA was signed by the Army, EPA, and State of Utah in September 1991. Corrective measures being addressed under RCRA, are being conducted in accordance with a RCRA corrective action permit, with the Utah Department of Environmental Quality, Division of Solid and Hazardous Waste as the lead agency. TEADs RCRA corrective action permit was initially issued in January 1991. The permit was reissued in February 2001 and again in June 2005.

The primary issue affecting the scope and schedule for TEADs restoration program, is the presence of off-site ground water contamination originating in the former TEAD industrial area.

IRP

- Prior Year Progress: Decision Document/Records of Decision have been signed for all sites with the exception of Operable Unit 9 (TEAD-12, TEAD-15, TEAD-27, and TEAD-36). A Record of Decision for Operable Unit 9 is anticipated in FY2006.
- Future Plan of Action: All remedies and corrective measures are in place with the exception of Operable Unit 9, TEAD-05, and TEAD -81. Remedies and corrective measures are anticipated to be completed at TEAD-05 in FY07 and at TEAD-81 in FY09 with a remedy in place in FY07. An ongoing alternative measures evaluation is currently in progress at TEAD-13. This evaluation is scheduled to be completed in FY07. The evaluation is intended to develop an alternative management strategy to replace the current pump and treat system.

MMRP

- Prior Year Progress: The Phase I and Phase II site inventories were completed in FY03.
- Future Plan of Action: A site inspection of all identified sites is scheduled to be completed in FY07.

Cleanup Program Summary

BRAC

- Prior Year Progress: Decisions Documents/Records of Decision have been signed for all sites with the exception of TEAD-101.
- Future Plan of Action: A Decision Document is anticipated for TEAD-101 in FY07. All required remedial actions and corrective measures have been completed with the exception of TEAD-93 and TEAD-101. Required corrective measures at TEAD-93 will be completed in FY07. TEAD-101 is currently undergoing a Phase II RCRA Facility Investigation. Corrective measures will be evaluated following this investigation. It is anticipated that a corrective measure will be selected for TEAD-101 in FY07.

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Installation Restoration Program

Total AEDB-R IRP Sites/AEDB-R Sites with Response Complete: 33/14

Different Site Types:

1 Burn Area	1 Contaminated Building	2 Disposal Pit/Dry Well
1 Spill Site Areas	1 Contaminated Soil Pile	4 Drainage Ditch
1 AST	4 Surface Disposal Area	2 Unexploded Munitions/Ordnance
1 Firing Range	4 Incinerator	2 Storage Areas
1 Landfill	1 Pesticide Shop	6 Surface Impound/Lagoon
1 Explosive Ordnance Disposal Area		

Most Widespread Contaminants of Concern: VOCs, Explosives, Metals, PCBs and Petroleum Constituents

Media of Concern: Soil, Groundwater

Completed Removal (REM)/Interim Remedial Action (IRA)/Remedial Action (RA):

REM-Soil Removal (1976) (Non-DERA Funds)
REM-Soil Removal (1980) (Non-DERA Funds)
IRA-Capping (1984) (Non-DERA Funds)
IRA-Capping (1989) $4,200,000
REM-Tank Removal (1991) (Non-DERA Funds)
REM-Tire Removal (1993) $160,000
REM-Fence Installation (1994) $4,000
IRA-UXO Clearance (1994) $1,298,000
REM-Fence Installation (1995) $3,800
REM-Fence Installation (1995) $3,200
IRA-Tank Removal TNT Washout Facility (1996) $265,330
IRA- Building 679 Sump Removal (2000) BRAC funds $12,000
RA-Soil Removal TEAD-70A,(2000) $22,000
IRA-Landfill, relocation of off site debris, (2003) $38,000
RA-TEAD-31, Soil Removal (2003) $466K
RA-TEAD-50, Soil Removal (2003) $208K
RA-TEAD-54, Soil Removal (2003) $215K
RA-TEAD-25, Soil Removal/Cap (2003) $220K
RA-TEAD-37, Soil Removal/Cap (2003) $240K
IRA-TEAD-05, Site Fencing (2003) $51K
IRA-TEAD-36, Site Fencing (2003) $132K

Total IRP Funding

Prior Years (up to FY05):	$	108,828.41K (Active + BRAC)
Current Year Funding (FY06):	$	3,711K
Future Requirements (FY07+):	$	22,270K
Total:	$	134,809.41K

Duration of IRP

Year of IRP Inception: 1979
Year of IRP RIP/RC: 2007/2025
Year of IRP Completion including Long-Term Management (LTM): Indefinite

IRP Contamination Assessment Overview:

Past operations and related disposal practices at TEAD have resulted in the generation of various types of industrial wastes, some of which have resulted in contamination of the environment. Chlorinated solvents, heavy metals (primarily lead), polychlorinated biphynels, and explosives are the primary contaminants of concern. Significant plumes of solvent-contaminated ground water have been identified, both on and off the installation. Additionally, UXO are present in substantial quantities at some locations, which can complicate both study and cleanup efforts.

Investigations identified trichloroethylene (TCE) and other chlorinated solvents contamination from the Industrial Waste Lagoon in groundwater in the early 1980s, as well as explosive compounds from the TNT Washout Facility in soil and in groundwater. Following the discovery of solvent contamination at the lagoon, the Utah Department of Environmental Quality issued TEAD a formal consent order to investigate and clean up the site. A ground water pump and treat system has been operating at the site since 1993.

The U.S. Environmental Protection Agency placed the Depot on its National Priorities List in October of 1990. Subsequently, a Federal Facilities Agreement regulating general investigation and cleanup terms and conditions, under the Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA), was signed with federal and state regulatory agencies in September 1991. TEAD was issued a RCRA Corrective Actions permit, addressing similar issues, in January of that year. This permit expired and was reissued in February 2001 and again in June 2005.

The TEAD restoration program underwent an Independent Technical Review (ITR) in September 2000. Sites evaluated under this review included SWMU 10, TNT Washout Ponds, SWMUs 12/15, Sanitary Landfill, and Groundwater Investigation efforts associated with SWMUs 2 and 58. The report of findings from this review was published and discussions concerning the appropriateness of proposed remedies at SWMUs 10, and 12/15 were questioned. In addition, concerns were raised concerning the on-going operations of the ground water remediation system, as well as the concepts presented for further delineation and remediation of source areas. Based on the recommendations coming out of the ITR, additional site characterization was completed, alternatives were reevaluated, and cost estimates revised.

The Depot was placed on the BRAC list in 1993. As a result, of the 67 DSERTS sites at TEAD, 33 are being addressed under the Army's Installation Restoration Program (IRP) for active facilities, and the others are under the BRAC environmental program. Likewise both IRP and BRAC sites are further split between regulation under CERCLA and RCRA, as shown in the Site List.

Site Organization and Project Phase Status
The IRP at TEAD (a total of 57 Solid Waste Management Units or SWMUs) is divided into two programs, one operated under CERCLA and the other under RCRA corrective action. The 17 CERCLA SWMUs are listed in the Federal Facilities Agreement, and are divided into seven operable units, numbered 4-10 (numbers 1-3 are used by EPA to track TEADs RCRA Corrective Action sites). All required response actions have been completed at

OUs 5, 6, 7 and 10. The ROD for OU4 was signed January 2003 and the ROD for OU 8 continues to be staffed for signature. The remaining operable unit, OU 9, contains 4 SWMUs which are currently in the Feasibility Study/Proposed Plan/Record of Decision phase.

There are 40 SWMUs addressed in the Corrective Action Permit. These SWMUs are further divided into two primary categories by the permit - known releases (nine SWMUs), and suspected releases (31 SWMUs).

The RFI for the Known Release SWMUs was approved by the regulators in 1997. The CMS has been approved for all of the Known Release SWMUs and a Decision Document signed.

Of the 31 Suspected Release SWMUs, four were approved as requiring no further action after the Phase I RFI. The 27 remaining SWMUs are categorized into four groupings (Groups A, B, C, and TEAD-101) for management and scheduling purposes. There are eight SWMUs in Group A for which the CMS was approved and all corrective measures have been implemented. There are nine SWMUs in Group B, four of which have been approved for no further action after the Phase II RFI in 1997; the remaining five are RC. There are also nine SWMUs in Group C, one of which received no further action in 1997. The CMS for the other eight SWMUs in this group has been approved and the corrective measures will be completed in May 2003 with the exception of TEAD-93 which is planned for completion in FY07. Lastly, TEAD-101, Industrial Area Groundwater Sources is in the Phase II RFI phase.

Cleanup Exit Strategy:
Continue remedial actions and long term monitoring as needed.

1979

- USATHAMA: Environmental Assessment of Tooele Army Depot, Report No. 141: December

1982

- Inland Pacific Eng. Co.: Installation Environmental Assessment: June
- AEHA: Investigation at the Open Burning/Open Detonation Areas
- ERTEC: Exploratory Environmental Contamination Assessment Report
- USEPA and EPIC: Environmental Photographic Interpretation Center Report

1983

- AEHA: Investigation at the Open Burning/Open Detonation Areas
- TEAD Facilities Eng.: Analysis of Existing Facilities/Environmental Assessment Report: May

1984

- AEHA: Investigation at the Open Burning/Open Detonation Areas

1985

- AEHA: Investigation at the Open Burning/Open Detonation Areas
- Woodward-Clyde: Interim Groundwater Quality Assessment Report
- CH2M Hill: Monitoring Activity and Waste Disposal Review and Evaluation: January
- Department of the Army: A Study of Environmental Balance: March
- CDM: Performance of Remedial Response Activities at Uncontrolled Hazardous Waste Sites - Final Plan: March
- TEAD Facilities Engineering: Analytical/Environmental Assessment Report: November

1986

- James M. Montgomery (JMM): Industrial Wastewater Lagoon and Ditches - Groundwater Quality Assessment Report, Corrective Action Plan, and Record of Decision: January
- JMM: Engineering Report for Closure of the Industrial Wastewater Lagoon: March
- USEPA and EPIC: Environmental Photographic Interpretation Center Report Addendum: July

1987

- NUS Corporation: Draft Interim RCRA Facility Assessment: August

1988

- JMM: Groundwater Quality Assessment Engineering Report: May
- EA Engineering, Science and Technology: Preliminary Assessment/Site Investigation Report: December

Previous Studies

1991

- ESE: Final Remedial Investigation Report Groundwater Quality Assessment: February
- ASI: RCRA RFI Phase I Summary Report for Known Release Units: November

1992

- SEC Donohue: Final Preliminary Baseline Risk Assessment for North Area: April

1993

- RUST E&I: Assembled Alternatives Screening Memorandum: March
- RUST: Memorandum of Remedial Action Objectives: June
- RUST E&I: Memorandum on Detailed Analysis of Alternatives: October
- Montgomery Watson: Phase I RCRA Facility Investigation Report, Suspected Releases SWMUs: December

1994

- RUST E&I: Remedial Investigation Report for Operable Units 4-10: February
- RUST E&I: Feasibility Study Report for Operable Units 5, 6, 7, 10: March
- RUST E&I: Record of Decision for Operable Units 5, 6, 7 and 10: September

1995

- Davey: Remedial Action Workplan for CERCLA Sites: October 1
- Kleinfelder: Remedial Design for Two CERCLA Sites in TEAD-North, Volume 1 & 2: November 1

1996

- Kleinfelder: Technical Memorandum, Target Soil Clean-up Goals, Box Elder Drum Wash Site (OU 10/SWMU 41), TEAD-North: January
- Kleinfelder: Remedial Design Support Field Activities Report for Box Elder Wash Drum Site in TEAD-North: February
- Kleinfelder: Technical Evaluation of Groundwater Conditions Beneath Northeast Boundary: March
- RUST E&I: Phase II RFI Report for Known Releases SWMUs: April
- USACE: (OU 10/SWMU 41), TEAD-North: May
- Geomatrix: Groundwater Monitoring Report: Spring
- Dames and Moore: Group A Suspected Releases CMS Work Plan: June
- Dames and Moore: Known Releases CMS Work Plan: July
- Montgomery Watson: Phase II RFI Report for Group A SWMUs.: September
- RUST E&I: Phase 2 RI Report for Operable Units 4, 8 and 9: November
- Metcalf & Eddy: Groundwater Sampling & Analysis: December

1997

- RUST E&I: Remedial Investigation Addendum Report for OUs 4, 8, and 9: February

Previous Studies

1998

- Dames and Moore: Feasibility Study Report for OUs 4,8, and 9: January
- Dames and Moore: Proposed Plan for OUs 4, 8, and 9: February
- Dames and Moore: Technical Report for Soil Composting Treatability Study, TNT Washout Facility (SWMU 10): February
- Dames and Moore: Additional Field Investigation for Known Releases SWMUs: July
- Kleinfelder: Groundwater Treatment Plant Optimization Study: August

1999

- EPA: Groundwater Treatment System Optimization Study: February
- USACE: Groundwater Flow and Solute Transport Model: February

2001

- URS Dames &Moore: Group A Corrective Measures Study Report: April
- URS Dames &Moore: Group A Decision Document: April
- URS Dames &Moore: CMS and Decision Document for SWMUs 3,11,25,30: December

2002

- TEAD: 1st Five Year Review: September

2003

- USACE: Corrective Measures Work Plan, SWMU 20: Jan
- USACE: Corrective Measures Work Plan, SWMU 21: Jan
- USACE: Corrective Measures Work Plan, SWMU 34: Jan
- URS Dames & Moore: CMS for SWMUs 12-15: March
- URS Dames & Moore: CMS for SWMU-10: July
- USACE: Corrective Measures Work Plan, SWMU 25: July
- URS Dames & Moore: Decision Document for SWMU-10: October
- TEAD: Remedial Design Plan for IC's at OU-8: December
- URS Dames & Moore: Record of Decision for OU-8; December

2004

- URS Dames & Moore: Decision Document for SWMUs 12-15: January
- USACE: SWMU 37 Site Management Plan: March
- USACE: Final Interim Action Report, SWMU 40: May
- USACE: Final Interim Action Report, SWMU 6: May
- Northwind: SWMU 11 Corrective Measures Construction Completion Report: May
- AEEC: SWMU 20 Corrective Measures Construction Completion Report: July
- AEEC: SWMU 21 Corrective Measures Construction Completion Report: July
- AEEC: SWMU 34 Corrective Measures Construction Completion Report: July
- Northwind: SWMU 49 Corrective Measures Construction Report: August
- Kleinfelder: SWMU 03 Site Closure Report: September
- MWH: Corrective Measures Work Plan, SWMU 42: September

2005

- TEAD: Remedial Design Plan for IC's at OU 7: February
- USACE: Corrective Measures Work Plan, SWMU 12/15: May

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Installation Restoration Program
Site Descriptions
OU-7

TEAD-10, SWMU-05
PCB SPILL SITE (POLE 184)

SITE DESCRIPTION

This site resulted from the release of PCBs from a transformer involved in a utility pole fire. The ROD signed in 1994 required no further action.

The first five year review completed in 2002 indicated that institutional controls are required at the site as residual contamination remains on site that requires implementation of management measures to comply with risk rules adopted by the state of Utah.

A Remedial Design (RD) Plan was approved in 2005 for implementation and monitoring of ICs. The RD plan requires annual IC inspections as well as five year reviews.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: High

CONTAMINANTS OF CONCERN: PCBs

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	199409
RA(C)	199507	199608
LTM	200502	203502

RC: 199608

CLEANUP STRATEGY

The selected remedy is Institutional Controls (ICs) in the form of land use restrictions to prevent residential use.

LTM consists of five year reviews and annual LUC inspections. Annual LUC inspections are conducted by installation staff, with reports due to regulatory agencies in October of each year.

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Installation Restoration Program
Site Descriptions
OU-8

TEAD-05, SWMU-06
OLD BURN AREA

SITE DESCRIPTION

The Old Burn Area was used for testing of munitions and for burning boxes and wooden crates on the ground surface and in shallow trenches. These activities were discontinued in the 1970s. The trenches still contain metal debris and spent or destroyed munitions. The trenches have been filled, graded and re-vegetated.

Low levels of metals and explosives were detected in soil samples. Lead was located in a small area near one of the berms and hot spots were detected to 5 ft bgs. 2,4-DNT was located within a manmade drainage ditch that collects runoff from the site. Both were present at concentrations above the industrial worker PRGs. Elevated cancer risks and hazards were identified for the hypothetical future resident and the future construction worker. No significant ecological risks were identified.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: High

CONTAMINANTS OF CONCERN: Explosives, Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	200002
RD	200102	200206
RA	200403	200709
LTM	200709	203709

RC: 200709

An Interim Action was completed in 2003 consisting of site fencing to limit exposure to ordnance. A ROD was signed by the Army, EPA and State of Utah in 2004.

The remedy selected in the 2004 ROD was excavation and solidification/stabilization of lead-contaminated soil (~1,175cy). Solidified/stabilized soil was to be deposited in and managed in a CAMU located within the boundaries of SWMU 12/15. The remedy also included the excavation and off-site disposal of explosive contaminated soil. Remedial action at the site was initiated in 2004. During remediation of the site, it was determined that the lead contaminated soil contained an excessive amount of metal debris, which made it impractical to stabilize. Explosive contaminated soils were excavated and disposed of at an off-site treatment, storage, and disposal facility.

CLEANUP STRATEGY

A Technology Evaluation will be required to evaluate alternative remedial actions for dealing with the lead contaminated soil and metal debris. The Technology Evaluation was initiated in 2005 and will be completed in 2006. An ESD will be completed to document the change in remediation. Cost to complete estimates are based on the assumption that soil will be treated with a spray on stabilization compound and placed in the CAMU.

Regardless of what the new remedy proposed will be, land use controls will remain part of the remedy. LTM will be required consisting of five year reviews and annual land use control inspections.

TEAD-16, SWMU-08
FIRING RANGE

SITE DESCRIPTION

The Small Arms Firing Range was used for weapons training by the National Guard, Army Reserve, Navy and TEAD military personnel. The range contains 20 firing stations, with targets located at 25, 50, 100 and 300 meters. Bermed areas just in front and behind the targets were used to stop the fired rounds.

Several metals were identified in the soil collected from the berms, although lead was the only COC.

Elevated risks and hazards were identified for the hypothetical future resident. The ecological risk identified adverse effects on plants and animals from the lead in the soil. A ROD was signed by the Army, EPA and State of Utah in 2004.

The selected remedy is excavation and solidification/stabilization of lead-contaminated soil (2,800cy). Solidified/stabilized soil will be deposited in and managed in a CAMU located within the boundaries of SWMU 12/15. Excavation, stabilization, and placement of the soil in the CAMU was completed in December 2004.

A Remedial Design (RD) Plan has been prepared for implementation and monitoring of ICs. The RD plan requires annual IC inspections as well as five year reviews.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: High

CONTAMINANTS OF CONCERN: Lead

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	200002
RD	200101	200206
RA	200403	200412
LTM	200412	203412

RC: 200412

CLEANUP STRATEGY

Institutional controls (ICs) in the form of land use restrictions are included as part of the remedy to prevent future residential use.

Long Term Management (LTM) will be required at the site. LTM consists of annual IC inspections and five year reviews.

TEAD-06, SWMU-13
TIRE DISPOSAL SITE

SITE DESCRIPTION

The Tire Disposal Area is an 11-acre pit located in the southern portion of TEAD. It was used for the disposal of vehicle tires from 1965 to 1993. The tires were removed in 1993.

Chloromethane was the only chemical detected in the surface soil. However it was present at levels below the Depot worker PRG.

A ROD was signed by the Army, EPA and State of Utah in 2004.

A Remedial Design (RD) Plan has been prepared for implementation and monitoring of ICs. The RD plan requires annual IC inspections as well as five year reviews.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: Low

CONTAMINANTS OF CONCERN: Chloromethane

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	200002
IRA	199307	199309
RA(C)	200312	200312
LTM	200312	203408

RC: 200312

CLEANUP STRATEGY

The selected remedy is Institutional Controls (ICs) in the form of land use restrictions to prevent residential use.

LTM will be required at the site. LTM consists of annual IC inspections and five year reviews.

TEAD-34, SWMU-22
BUILDING 1303 WASHOUT POND

SITE DESCRIPTION

The Building 1303 Washout Pond is a shallow depression located in the southwestern portion on TEAD. This site received washwater from Bldg 1303, where high-explosive bombs and projectiles were dismantled and shell casings were washed for reuse or disposal. The washwater drained from the building into an unlined ditch and flowed to the ponding area.

Metals and explosives were detected in the soil of the ditch and pond. The explosives 2, 4, 6-TNT and RDX were located in one hot spot.

In February 1998, an Interim Action was conducted consisting of the excavation of explosive-stained soil from the washout pond.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: Medium

CONTAMINANTS OF CONCERN: Explosives, Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	200002
IRA	199707	199710
LTM	200312	203312

RC: 200002

A risk assessment, conducted after the removal, showed slightly elevated cancer risks, and hazards were detected for the hypothetical future resident. A ROD was signed by the Army, EPA and State of Utah in 2004.

An Implementation Plan was prepared for the monitoring of ICs. The plan requires annual IC inspections as well as five year reviews.

CLEANUP STRATEGY

The selected remedy is Institutional Controls (ICs) in the form of land use restrictions to prevent residential use,

LTM will be required at the site. LTM consists of annual IC inspections and five year reviews.

TEAD-28, SWMU-36
OLD BURN STAGING AREA

SITE DESCRIPTION

The Old Burn Staging Area is a small pit located immediately north of the Old Burn Area (SWMU 6). The area was used to temporarily store material on its way to the Old Burn Area (TEAD-05).

Elevated concentrations of metals were detected in the surface soil. Slightly elevated residential risks were identified.

A ROD was signed by the Army, EPA and State of Utah in 2004.

An Implementation Plan was prepared for the monitoring of ICs. The plan requires annual IC inspections as well as five year reviews.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: High

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	200002
LTM	200312	203312

RC: 200002

CLEANUP STRATEGY

The selected remedy is Institutional Controls (ICs) in the form of land use restrictions to prevent residential use.

LTM will be required at the site. LTM consists of annual IC inspections and five year reviews.

TOOELE ARMY DEPOT

Installation Restoration Program
Site Descriptions
OU-9

TEAD-12, SWMU 23
BOMB SHELL RECON BUILDING

SITE DESCRIPTION

Operations in Building 1345 began in the late 1950s and have consisted of external work on large munitions, primarily sandblasting and painting. Wastewater, which currently is comprised of boiler blowdown water, has flowed from the facility into two ditches.

The Remedial Investigation identified elevated levels of SVOCs that pose a residential risk as well as industrial worker risk.

The Final Feasibility Study, Proposed Plan, and Record of Decision are anticipated in fall 2006.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: Medium

CONTAMINANTS OF CONCERN:
SVOCs

MEDIA OF CONCERN:
Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	200609
RD	200509	200612
RA(C)	200612	200709
LTM	200709	203709

RC: 200709

CLEANUP STRATEGY

The anticipated remedial action will be excavation and disposal of contaminated soil along with institutional controls in the form of land use controls to prevent residential use. A remedial design plan for implementation and monitoring of ICs will be required.

LTM will be required at the site. LTM will consist of annual IC inspections and five-year reviews.

TEAD-15, SWMU 07
CHEMICAL RANGE

SITE DESCRIPTION

The Chemical Range which covers 550 acres, runs east and west along the southern installation boundary. A small wedge (9 acres) of this former range is off post and has been identified as TEAD-003-R-01 under the MMRP.

At the eastern point of the firing range is the firing point, with the bullet stop located about 4,860 feet to the west. A building foundation and several debris disposal trenches are all that remain. Chemical and pyrotechnic type munitions, excluding chemical agent fill munitions, were tested and disposed of at this site. Munitions testing and disposal included such items as flares, smoke grenades, smoke pots, incendiary devices and riot control gases.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: Medium

CONTAMINANTS OF CONCERN:
Metals, UXO

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	200205
IRA	199707	199712
LTM	200610	203609

RC: 200609

In 1997, an Interim Action was conducted consisting of debris and explosive residue removal from one of the exposed trenches.

The Remedial Investigation at this site identified elevated metals concentrations in surface soils that pose residential and construction worker risks.

The Final Feasibility Study, Proposed Plan, and Record of Decision are anticipated in fall 2006.

CLEANUP STRATEGY

Institutional controls (ICs) in the form of land use restrictions are anticipated to be the final remedy at the site. A remedial design plan for implementation and monitoring of ICs will be required. LTM will be required at the site. LTM will consist of annual IC inspections and five year reviews.

TEAD-36, SWMU 40
AED TEST RANGE

SITE DESCRIPTION

The AED Test Range is located in the northwestern portion of TEAD, and has been used for the testing of munitions, bombs and rocket motors. This site consists of several revetments, a drop tower and a deactivation furnace (only the foundation remains). The deactivation furnace was used to test conveyor spacing in relationship to the design of such systems. Fragments of propellant, UXO and spent munitions can be found on the surface throughout the site.

Contaminants of concern that were identified during the Remedial Investigation consist of metals, RDX and 2,4-dinitrotoluene. These contaminants trigger a residential risk.

The site was fenced in Nov 2003.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: High

CONTAMINANTS OF CONCERN: Explosives, Metals, UXO

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	200311
IRA	200309	200311
LTM	200610	203609

RC: 200311

The Final Feasibility Study, Proposed Plan, and Record of Decision are anticipated in fall 2006.

CLEANUP STRATEGY

Institutional controls (ICs) in the form of land use restrictions are anticipated to be the final remedy at the site. A remedial design plan for implementation and monitoring of ICs will be required. LTM will be required at the site. LTM will consist of annual IC inspections and five year reviews.

TEAD-27, SWMU 35
WASTEWATER SPREADING AREA

SITE DESCRIPTION

At the Wastewater Spreading Area, runoff and wastewater from a former housing area, now part of the TEAD horse stable complex, was discharged through two culverts into two unlined ditches. The ditches discharged to a relatively flat spreading area.

Levels of pesticides above industrial worker PRGs were identified as COCs in the soil. These pesticides do not appear to have adversely affected groundwater. The human health Risk Assessment identified no elevated cancer risk or hazards for the Depot worker. Elevated risk has been identified for the possible future resident. There is a potential ecological risk to songbirds due to the consumption of food from this area.

STATUS

REGULATORY DRIVER: CERCLA

RRSE RATING: Medium

CONTAMINANTS OF CONCERN: Pesticides

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	200002
LTM	200609	203609

RC: 200002

The Final Feasibility Study, Proposed Plan, and Record of Decision are anticipated in fall 2006.

CLEANUP STRATEGY

Institutional controls (ICs) in the form of land use restrictions are anticipated to be the final remedy at the site. A remedial design plan for implementation and monitoring of ICs will be required. LTM will be required at the site. LTM will consist of annual IC inspections and five year reviews.

TOOELE ARMY DEPOT

Installation Restoration Program
Site Descriptions

Group - A

TEAD-01, SWMU 01
OPEN BURNING/OPEN DETONATION AREA

SITE DESCRIPTION

This site consists of four sub-areas identified as 1, 1a, 1b, 1c, and 1d. Sub-areas 1 and 1d are not ER,A eligible as they are RCRA permitted treatment units. Sub-areas 1b and 1c are historical demil/disposal sites that are ER,A eligible. Land Use controls have been implemented at sub-areas 1b and 1c as residual contamination, as well as UXO remain on the site that pose an unacceptable risk to all receptor groups. In 2005 inspection and reporting requirements for this site were added to the installation RCRA Post Closure Monitoring and Corrective Action Permit

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: High

CONTAMINANTS OF CONCERN: Metals, Explosives

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200106
LTM	200106	203106

RC: 200106

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year.

TEAD-35, SWMU 20
AED DEACTIVATION FURNACE (BLDG 1351)

SITE DESCRIPTION

This site is located on an approximately 200 by 225 ft asphalt pad, along the road between the AED Demil Facility and the Bomb Shell Recon Bldg. A small area of the western corner of the pad, which was reportedly once used to store drummed residue, is referred to as the former hazardous waste holding area. Building 1351 has been active since approximately 1970; it includes a deactivation furnace, a flash furnace (installed in 1976) and a large air pollution control system (installed in 1976). Building 1352 is a small storage building.

The contamination resulting from approximately 6 years of use without the air pollution controls is eligible for ER,A funds. Low levels of several metals were detected in the soils that pose a risk to future residents.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: High

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200108
DES	200108	200208
CMI	200305	200311
LTM	200311	203311

RC: 200311

Ash from current use is drummed and disposed of off-site due to the presence of Cd, Cr and Pb.

Corrective measures were implemented in 2003 and consisted of construction of an asphalt cap, along with Institutional Controls (ICs) in the form of land use restrictions. Land use restrictions have been applied to the site to prevent future residential use of development of the site.

Cleanup costs associated with closure with active portions of these sites will be addressed under the RCRA Part B Closure Plan and funded separately.

CLEANUP STRATEGY

Semi-annual inspections and maintenance of the asphalt cap will continue. LTM will be required at the site. LTM consists of semi-annual IC inspections.

TEAD-37, SWMU 21
DEACTIVATION FURNACE (BLDG 1320)

SITE DESCRIPTION

This site occupies 0.7-acres in the southwestern portion of TEAD. The site is an ammo demil production facility (Bldg 1320) that was constructed about 1955 and is currently under a RCRA Part B permit.

Bldg 1320 contains a rotary-kiln deactivation furnace that is used to deactivate small arms ammo, primers and fuses. Air pollution control equipment was installed around 1975 to treat emissions from the furnace.

The contamination resulting from the approximately 20 years of use without the air pollution controls is eligible for ER,A funds. The RFI detected metals, explosives, dioxins and furans that pose an unacceptable risk to the future resident, worker and ecology. A small amount of TNT-contaminated soil was removed from the Former Drum Staging Area.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: High

CONTAMINANTS OF CONCERN: Explosives, Metals, Dioxins, Furans

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200108
CMD	200108	200208
CMI	200305	200311
LTM	200311	203311

RC: 200311

Incinerator residue (ash and metal debris) is collected at the south end of the furnace and loaded into 55-gallon drums for temporary storage. Open staging areas for support equipment and drums are located around the outside of the building. These areas are paved with asphalt or covered with gravelly soil.

Corrective measures were implemented in 2003 and consisted of construction of an asphalt cap, along with Institutional Controls (ICs) in the form of land use restrictions. Land use restrictions have been applied to the site to prevent future residential use of development of the site.

Cleanup costs associated with closure with active portions of these sites will be addressed under the RCRA Part B Closure Plan and funded separately.

CLEANUP STRATEGY

Semi-annual inspections and maintenance of the asphalt cap will continue. LTM will be required at the site. LTM consists of semi-annual IC inspections.

TEAD-54, SWMU 34 PESTICIDE MIXING (HANDLING & STORAGE) BUILDING 518

SITE DESCRIPTION

Building 518 and the bermed concrete pad are located in the southeastern portion of TEAD and has been used since 1942 to store and prepare herbicides and pesticides. Previously, spills from within the building were directed to the floor drain, which connected to the storm drain and ultimately dumped into Stormwater Discharge (TEAD-82, SWMU 45). However, all liquid wastes are now containerized.

Localized areas of elevated metals and pesticides that were detected during the RFI exceeded residential risk levels.

Corrective measures were implemented in 2003 and consisted of the excavation and disposal of contaminated soil, along with Institutional Controls (ICs) in the form of land use restrictions. Land use restrictions have been applied to the site to prevent future residential use of development of the site.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: Medium

CONTAMINANTS OF CONCERN: Pesticides, Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200108
DES	200108	200208
IRA	200305	200311
CMI(C)	200305	200311
LTM	200311	203311

RC: 200311

CLEANUP STRATEGY

LTM will be required at the site. LTM consists of semi-annual IC inspections.

TEAD-29, SWMU 37
CONTAMINATED WASTE PROCESSOR

SITE DESCRIPTION

This facility was constructed for flashing explosive contaminated scrap metal, and the incineration of conventional ammunition shipping and storage materials (dunnage) that were contaminated with explosive residue. Land use controls have been implemented at this site as residual contamination remains on site that pose a unacceptable risk to residential receptors. Site monitoring will be required under the installations RCRA corrective action permit to ensure that the land use controls remain protective under current and future use of this site.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: Low

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200106
LTM	200106	203106

RC: 200106

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-58, SWMU 42
BUILDING 539 BOMB WASHOUT

SITE DESCRIPTION

Building 539 was used from 1942 to the early 1960s to burn small arms projectiles and recover lead. The floors were washed down and the water allowed to discharge through a concrete flume to a culvert, eventually emptying into a ditch (extending approximately 600 ft) on the northwest side of the building, then to an unlined holding pond (50 ft in diameter and 2 ft deep). There were three other furnaces in the area; two in Bldg 520 and one 255 ft to the north of the site that were operated at about the same time, that may have contributed to the area's contamination.

Very high levels of lead were found in surficial soils around the building, and in the drainage ditch and pond. The contamination exceeds residential standards. TEAD has fenced off the most highly contaminated area to keep workers from being exposed.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: High

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200108
IRA	199506	199507
DES	200108	200406
CMI(C)	200406	200510
LTM	200510	203510

RC: 200510

The CMS was approved in FY 2001. Corrective Measures Implementation was initially expected to be executed in 2004. Due to the potential presence of sensitive submunitions on the site, corrective measures implementation was delay pending an evaluation of the potential ordnance issues. These ordnance issues have been resolved, and corrective measures will be completed in summer 2005. The corrective measures to be implemented at the site consist of, the excavation of contaminated soil, consolidating it within the pond area, construction of a soil cap, and institutional controls (ICs) in the form of land use restrictions. The ICs are intended to prevent future residential use or development of the site.

CLEANUP STRATEGY

Semi-annual inspections and maintenance of the soil cap will continue. LTM will be required at the site. LTM consists of semi-annual IC inspections.

TEAD-83, SWMU 45
STORMWATER DISCHARGE

SITE DESCRIPTION

Investigations were conducted at this site to determine if hazardous substance had been discharged to the administration area storm sewer from motor pool and other base operations functions. Residual levels of contamination were identified at the site that required site management. Corrective measures implemented at the site consist of land use controls to prevent future residential development of the site. Post closure monitoring as required by the installations RCRA corrective action permit will be required to ensure that land use controls remain protective.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: Low

CONTAMINANTS OF CONCERN: Metals, SVOCs

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200106
LTM	200106	203106

RC: 200106

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-84, SWMU 48
OLD DISPENSARY

SITE DESCRIPTION

Investigations were conducted at this site to determine if hazardous substance had been discharged to open drainage areas from former laboratory and ex-ray operations at the old installation dispensary. Residual levels of contamination were identified at the site that required site management. Corrective measures implemented at the site consist of land use controls to prevent future residential development of the site. Post closure monitoring as required by the installations RCRA corrective action permit will be required to ensure that land use controls remain protective.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: Low

CONTAMINANTS OF CONCERN: Metals, SVOCs

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200106
LTM	200106	203106

RC: 200106

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TOOELE ARMY DEPOT

Installation Restoration Program
Site Descriptions
GROUP - B

TEAD-18, SWMU 19
AED DEMIL FACILITY (BLDGS 1370-1380)

SITE DESCRIPTION

This site was used as a pilot facility for testing of new design demilitarization equipment. Live ammunition and propellants were used at the site. Residual levels of contamination remain on site that pose a risk to residential receptors. Land use controls have been placed on the site to prevent future residential use and development of the site. Post closure monitoring under the installations RCRA corrective action permit will be required to ensure that the controls remain protective.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: Low

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200007
LTM	200007	203007

RC: 200007

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TOOELE ARMY DEPOT

Installation Restoration Program
Site Descriptions
Known Releases

TEAD-13, SWMU 02
IWL & DITCHES (PAGE 1 OF 3)

SITE DESCRIPTION

Between 1965 and 1988, the IWL received wastewater containing high levels of solvents and heavy metals from the Maintenance Area. The IWL consisted of a lagoon (200 by 400 ft.) and four unlined ditches which connected to one ditch which extended approximately 1.5 miles to the lagoon. The contaminated soils (volatiles, metals) from the IWL and the ditches were remediated in 1989. Additional sources are being investigated by the BRAC program.

A Consent Order was issued in 1985 and the Corrective Action Permit was issued in 1991.

TCE is the major contaminant and groundwater contamination had migrated beyond the installation's northern boundary. A groundwater pump and treat system started operating in late 1993 to address the TCE contaminated water.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: Medium

CONTAMINANTS OF CONCERN:
Solvents

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
RFA	197901	197912
CS	197901	197912
RFI/CMS	198210	198805
IRA	198811	199312
DES	198805	199103
CMI	199301	199312
CMI(O)	199312	202509

RIP: 199312
RC: 202509

Current data indicates that the contamination does extend beyond the boundary of the installation, though the treatment system has reduced mass and may be controlling the leading edge of the plume. Nearly 30 billion gallons of water have been treated and 2,187 lbs of TCE have been removed from the groundwater.

Though the sources are distinct, this contamination may be commingled with the plume in TEAD-101 (SWMU 58).

An Alternative Measures Evaluation and system shut-down was initiated in June 2004. This evaluation is intended to evaluate alternative management strategies that may be implemented on the site in place of the current pump and treat system. The evaluation is anticipated to continue for three years.

TEAD-13, SWMU 02
IWL & DITCHES (PAGE 2 OF 3)

CLEANUP STRATEGY

Complete the Alternative Measure evaluation, re-evaluating plume characteristics and treatment requirements.

The pump and treat and air stripping systems will be maintained in a ready state or operational mode to be turned back on if necessary.

The primary objective of the project is to conduct evaluations supporting an alternate method of plume management. A 3-year interim operation mode will be initiated during which groundwater pumping is minimized, and GW/contamination rebound is monitored. Modeling and calibration will evaluate the 3 year data and an alternate groundwater strategy consisting of MNA and closure and demolition of pump and treat system will be developed, assuming the data gathered in the interim period will support such an approach. The remedy developed will incorporate TEAD-101 and TEAD-13.

TEAD-11, SWMU 03
X-RAY LAGOON (BLDG #L-23)

SITE DESCRIPTION

Spent photographic developer and fixer solutions from Building 1223 were released to this 75 by 35 foot lined lagoon between 1974 and 1990. A separate septic tank and associated piping from Bldg 1225 are located next to the west of the pond.

Localized levels of heavy metals were detected in the pond's soils and underlying groundwater. It is suspected that groundwater concentrations are a result of deteriorated well screens.

An evaluation was completed in 2004 to determine the source of chromium detected in groundwater monitoring wells. Based on the results of this evaluation, it was determined that the source of chromium contamination was the deterioration of stainless steel well screens. As the chromium is not characteristic of site conditions, groundwater monitoring will be discontinued at the site, and monitoring wells will be closed and abandoned. ICs in the form of land use controls have been applied to the site. The ICs are intended to prevent future residential use and development of the site.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: Low

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198708	200108
CMI(C)	200412	200506
LTM	200508	203508

RC: 200506

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-81, SWMU 10
TNT WASHOUT PONDS (FACILITY)

SITE DESCRIPTION

This SWMU includes Building 1245 and a series of eight ponds (now dry) that were used from 1948 to 1986 as a bomb decommissioning facility. Rinse water containing explosives was released to the ponds and allowed to infiltrate and evaporate. A small plume of explosives exists in the groundwater beneath the site and explosive concentrations up to 4% have been found in the ponds' soils. Explosives concentrations in the soil exceeded residential and depot worker standards.

In 1984, a removal action was conducted which consisted of a liner being placed over four of the old ponds and clean soil being placed on top to help reduce infiltration of precipitation. The settling tanks located immediately to the north of Building 1245 were removed in 1997.

The CMS was approved in March 2003.

STATUS

RRSE RATING: High

REGULATORY DRIVER: RCRA

CONTAMINANTS OF CONCERN:
Explosives, Volatiles

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198708	200206
IRA	198410	199512
DES	200403	200606
CMI(C)	200601	200709
CMI(O)	200709	200906
LTM	200907	203906

RIP: 200709

CLEANUP STRATEGY

Explosives-contaminated soil (~10,000cy) will be composted and replaced onsite. The site will have institutional controls and long term monitoring of the groundwater.

TEAD-31, SWMU 11
LAUNDRY (EFFLUENT) PONDS

SITE DESCRIPTION

Both the Laundry Effluent Pond and the Sewage Pond are located next to the TNT Washout Facility (TEAD-81). The laundry pond accepted laundry wastewater from approximately 1950 until 1990 and boiler blowdown water until 1995. The sewage pond is a mostly dry pond that appeared to receive liquids from a septic tank and leach field. Several debris piles of waste metal cuttings and miscellaneous materials exist to the east of these ponds.

During the RFI, the majority of the cuttings and larger wastes were removed. The RFI found that the sediment contained metals and VOCs; the sludge contained metals, VOCs, and SVOCs; and the soil contained metals and TPH. The residential and industrial risk assessments were found unacceptable.

Corrective Measures (sludge removal) were completed in 2003. Corrective measures implemented included the excavation and off-site disposal of contaminated soil, along with institutional controls (ICs) in the form of land use restrictions. The ICs are intended to prevent future residential use and development of the site.

STATUS

RRSE RATING: High

REGULATORY DRIVER: RCRA

CONTAMINANTS OF CONCERN:
Metals, SVOCs, VOCs

MEDIA OF CONCERN:
Soil, Sediment, Surface Water

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI	198708	200104
IRA	199506	199708
DES	200104	200109
CMI(C)	200109	200309
LTM	200412	203309

RC: 200309

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-09, SWMU 12/15
NORTH AREA SANITARY LANDFILL

SITE DESCRIPTION

TEAD's 140-acre abandoned landfill, containing 70 acres of debris, is located in and around an arroyo and was used from 1942 to about 1995. The disposal of hazardous waste was prohibited after 1980. A wide variety of wastes, including hazardous waste and liquids, have been disposed of here. Groundwater beneath the site is contaminated with volatile organics.

Metals, SVOCs, VOCs, and pesticides in soil and VOCs in the groundwater exceed regulatory standards.

Groundwater monitoring began in the early 1990s. The boundary fence line was extended in FY00. Debris located off site was relocated within the landfill boundaries in March 2003.

This site will include a CAMU for solidified soil from TEAD-16.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: High

CONTAMINANTS OF CONCERN:
Volatiles, Metals, Pesticides

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI	198812	200403
IRA	200001	200303
DES	200402	200506
CMI(C)	200508	200512
LTM	200607	203608

RC: 200512

Corrective measures implemented at this site addressed soil contaminants. Groundwater management activities were conducted along with TEAD-13 and TEAD-101.

The proposed plan covers exposed debris, re-vegetate and re-grade for drainage, and applied institutional controls (ICs) in the form of land use restrictions. ICs applied to the site are intended to prevent future residential use or development of the site.

CLEANUP STRATEGY

Corrective measures operations at the site will include maintenance of the soil cover, vegetation, and fencing. LTM will be required for the site. LTM will consist of semiannual LUC inspections.

TEAD-50, SWMU 25
BATTERY (SHOP) RECHARGE OPS (BLDG 1252)

SITE DESCRIPTION

Building 1252 was the Battery Shop and it was used for the maintenance and repair of vehicle and forklift batteries. Past activities discharged spent battery acid and washdown water to a shallow ditch.

High, localized levels of metals were detected in the ditch during the RFI. The RFI found unacceptable risk to the future resident and on site workers.

TEAD has taken action to install a fence (1995) around the area with the highest levels of metal contamination.

Excavation and off-site disposal of ~321cy was funded 4th quarter of FY02.

Corrective Measures (soil removal) were completed in 2003. Corrective measures consisted of the excavation and off-site disposal of contaminated soil, along with the application of institutional controls (ICs) in the form of land use restrictions. The ICs are intended to prevent future residential use or development of the site.

STATUS

REGULATORY DRIVER: RCRA

RRSE RATING: High

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CI	197912	198812
RFI/CMS	198708	200009
IRA	199504	199508
DES	200009	200110
CMI(C)	200308	200311
LTM	200311	203311

RC: 200311

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

IRP No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
TEAD-14 SWMU 24	Battery Pit	Decision Document, Battery Shop Sump Removal, SWMU 24	200106
TEAD-21 SWMU 27	RCRA Container Storage	Decision Document, Group A No Action SWMUs	199604
TEAD-24A SWMU 30	Old IWL	Decision Document, Known Release SWMUs 3, 11, 25, and 30	200106
TEAD-33 SWMU 16	Septic Tanks	Decision Document, Group A No Action SWMUs	198812
TEAD-38 SWMU 41	Box Elder Wash Drum Site	Record of Decision, Operable Units 5, 6, 7 and 10	199610
TEAD-67 SWMU 43	Container Storage for P999	Decision Document, Group A No Action SWMUs	199310
TEAD-70 SWMU 46	Used Oil Dumpsters	Decision Document, Group B Corrective Action SWMUs	200202
TEAD-80 SWMU 14	Sewage Lagoons	Decision Document, Group B No Action SWMUs	199710

IRP Schedule

Initiation of IRP: 1979

Past Phase Completion Milestones

Because the SWMUs are divided into 3 major groups and 5 sub-groups, there are 5 separate schedules for TEAD. For a schedule of the IRP work completed to date and planned for the next few years at TEAD, see below.

Site-Wide	
Initial Installation Assessment	Dec 79
Exploratory Survey	Oct 82
PA/SI	Dec 88
RI	Dec 90
FFA SWMUs	
Preliminary Baseline Risk Assessment	Feb 93
Memorandum on Remedial Action Objectives	Feb 93
Assembled Alternatives Screening Memorandum	Feb 93
Memorandum on Detailed Analysis of Alternatives	Jan 94
RI (OUs 5,6,7 & 10)	Mar 94
FS (OUs 5,6,7 & 10)	Apr 94
ROD (OUs 5,6,7, & 10)	Sep 94
RD (OUs 7 & 10)	Dec 95
RI (OUs 4, 8, & 9)	Jun 97
RA (OUs 5, 6, 7, & 10)	Sep 96
PP and FS (OU 4 & 8)	Sep 00
Known Releases SWMUs	
Phase I RFI	Mar 92
Phase II RFI	May 96
Suspected Releases SWMUs	
Phase I RFI	Oct 93
Group A, Phase II RFI	Aug 98
Group B, Phase II RFI	Dec 97
Group A and B	
CMS and FS	B - Oct 00 A - Apr 01
TEAD-70A, Response Complete	Nov 01

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates:
Operable Unit 9 – September 2006

Projected Construction Completion Date of IRP and Removal from NPL: 2015+

Schedule for Next Five Year Review: 2007

Estimated Completion Date of IRP (including LTM phase): 2036+

Tooele Army Depot IRP Schedule

(Based on current funding)

AEDB-R #	Phase	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
TEAD-05	RA									
	LTM									
TEAD-06	LTM									203108
TEAD-09	CMI									
	CM(O)									
	LTM									203508
TEAD-11	LTM									203508
TEAD-12	RA									
	LTM									
TEAD-13	CMI(O)									202509
	CMI(O)									202509
	CMI(O)									202509
TEAD-15	LTM									203508
TEAD-16	LTM									203508
TEAD-27	LTM									203508
TEAD-28	LTM									203508
TEAD-31	LTM									203508
TEAD-34	LTM									203508
TEAD-35	CM(O)									
	LTM									203508
TEAD-36	LTM									203108
TEAD-37	CM(O)									
	LTM									203508
TEAD-50	LTM									203508
TEAD-54	LTM									203508
TEAD-58	LTM									203508
TEAD-81	CMI(O)									

Prior Years Funds

Total Funding up to FY04: **$103,492K (this amount includes Active and BRAC)**

FY05 Active Prior Year Funds

Site Information		Expenditures	FY Total
TEAD-05	RAC	$ 108.34K	
TEAD-05	RAO	$ 42.57K	
TEAD-09	RAC	$1,046.57K	
TEAD-11	LTM	$ 34.97K	
TEAD-13	RAO	$1,394.26K	
TEAD-16	RAC	$ 154.70K	**$2,781.41K (active)**

FY05 BRAC Prior Year Funds: **$ 2,555K**

Total Prior Year Funding: **$108,828.41K (Active + BRAC)**

Current Year (FY06) Requirements

Site Information	Requirements	FY Total
TEAD-05	$ 110K	
TEAD-06	$ 5K	
TEAD-09	$ 39K	
TEAD-12	$ 47K	
TEAD-13	$ 1,667K	
TEAD-58	$ 25K	
TEAD-81	$ 1,818K	**$3,711K (active)**

Total Future Requirements: **$22,270K (Active)**

Total IR Program Cost *(from inception to completion of the IRP):* **$142,815.41K (Active + BRAC)**

TOOELE ARMY DEPOT

Military Munitions Response Program

MMRP Summary

Total AEDB-R MMRP Sites / AEDB-R Sites with No Further Action: 5/0

AEDB-R Site Types
5 Unexploded Munitions/Ordnance

Most Widespread Contaminants of Concern: UXO

Media of Concern: Soil

Completed REM/IRA/RA: None

Total MMRP Funding

Prior Years (up to FY05):	$	281K
Current Year (FY06):	$	29K
Future Requirements (FY07+):	$	29,230K
Total:	$	29,540K

Duration of MMRP
Year of MMRP Inception: 2003
Year of MMRP RIP/RC: 2017/2032
Year of MMRP Completion Including LTM: 2047

MMRP Contamination Assessment

MMRP Contamination Assessment Overview

The Military Munitions Response Program at Tooele Army Depot was initiated in 2002. In February 2002 and inventory of the Active/Inactive ranges on the installation was completed. In November of the same year, the inventory of Closed, Transferring, and Transferred (CTT) Ranges was completed. Those sites identified in the CTT inventory (5 sites) are being addressed under the MMRP program. Of the five sites, two are located on privately owned property adjacent to the installation. In 1994, a partial UXO clearance of TEAD-001-R-01 was completed.

Cleanup Exit Strategy: Investigation is planned.

1992

- Techlaw: Closed, Transferring, and Transferred Range Site Inventory: November

1994

- Human Factors: UXO Removal Action Final Report: December

2002

- Techlaw: Active/Inactive Range Inventory: February

TOOELE ARMY DEPOT

Military Munitions Response Program

Site Descriptions

TEAD-001-R-01
OB/OD AREA

SITE DESCRIPTION

This is a transferred disposal site, owned by private, county, and federal parties, comprising 478 acres to the southwest of the installation. Munitions including rockets, bombs, grenades, medium and large caliber munitions, mortars, propellants, and small arms were burned or detonated in the OB/OD area on the installation beginning in 1942. Kickouts from operations in the OB/OD Area within the installation went into this area from 1942 until approximately 1995. The OB/OD kickouts are the only known source of munitions in this area. A portion of this area near the installation boundary has been surveyed and cleared of UXO, but not the entire area. The land is currently used for agricultural purposes or is undeveloped.

A portion of this site was cleared in 1996.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious

CONTAMINANTS OF CONCERN: MEC

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	200207	200305
SI	200509	200610
RI/FS	201010	201109
RD	201410	201509
RA(C)	201610	201709
LTM	201710	204709

RC: 201709

Work will be accomplished with CERCLA requirements, stakeholders involved in development and review of plan to include private land owners, Army, EPA, State DERR and DSHW.

CLEANUP STRATEGY

Additional investigation is planned. A remedial action may be needed.

TEAD-002-R-01
NE (Northeast) DEMIL AREA

SITE DESCRIPTION

This is a closed munitions site, still owned by the U.S. Army, comprising 626 acres in the northeast part of the installation. Fuses, hand grenades, and small arms have been found in this crater, where munitions were demilitarized from approximately 1953 to 1966. This land remains generally undeveloped, although part of the safety fan covers the revetment area in the northern part of the installation. The central demil crater has been surveyed for munitions, but a systematic cleanup has not been initiated.

Work will be accomplished with CERCLA requirements, stakeholders involved in development and review of plan to include private land owners, Army, EPA, State DERR and DSHW.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious

CONTAMINANTS OF CONCERN:
MEC

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
PA	200207	200305
SI	200509	200610
RI/FS	201010	201109
RD	201510	201609
RA(C)	201610	201709
RA(O)	201710	203209
LTM	203210	204709

RIP: 201710
RC: 203209

CLEANUP STRATEGY

Additional investigation is planned. Remedial actions may be needed.

TEAD-003-R-01
CHEMICAL RANGE

SITE DESCRIPTION

This is a transferred range, owned by private, state, and federal parties, comprising ~31 acres to the south of the installation. Smokes, smoke bombs, pyrotechnics, riot control agents, and smoke hand grenades were tested at the Chemical Range from approximately 1942 to 1972. The area of this range is the area where the safety fan extends offsite. This land is currently undeveloped, but is used for grazing purposes. There have been no known UXO responses on these ~31 acres.

Work will be accomplished with CERCLA requirements, stakeholders involved in development and review of plan to include private land owners, Army, EPA, State DERR and DSHW.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 3 – Moderate

CONTAMINANTS OF CONCERN:
MEC

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
PA	200207	200305
SI	200509	200610
RI/FS	201010	201109
RD	201510	201609
RA(C)	201610	201709
RA(O)	201710	203209
LTM	203210	204709

RIP: 201710
RC: 203209

CLEANUP STRATEGY

Additional investigation is planned. Remedial actions may be needed.

TEAD-004-R-01
OLD BURN AREA

SITE DESCRIPTION

This is a closed munitions site, still owned by the U.S. Army, comprising 51 acres in the east-central part of the installation. Smokes, grenades, propellants, and small arms were demilitarized and disposed around this building from approximately 1942 to 1972. The only current operations in this area are grazing and remediation activities. The Installation Restoration project for this area is only intended to remediate a portion of the UXO at the site. Only UXO identified during the remediation of the specific areas of the site slated for cleanup will be removed.

The lead-contaminated soil is being addressed under IRP site TEAD-05 (SWMU 06).

Work will be accomplished with CERCLA requirements, stakeholders involved in development and review of plan to include private land owners, Army, EPA, State DERR and DSHW.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 2 – Serious

CONTAMINANTS OF CONCERN: MEC

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	200207	200305
SI	200509	200610
RI	201010	201109
RD	201510	201609
RA	201610	201709
LTM	201710	204709

RC: 201709

CLEANUP STRATEGY

Additional investigation is planned. A remedial action may be needed.

TEAD-005-R-01
BUILDING 539 DISPOSAL AREA

SITE DESCRIPTION

This is a closed munitions site, still owned by the U.S. Army, comprising 97 acres in the east-central part of the installation. A variety of munitions, including bombs, smokes, grenades, land mines, medium and large caliber munitions, small arms, mortars, fuses, and secondary explosives, were demilitarized or disposed in the area around this building from approximately 1942 to 1972. This site is not currently being used except for survey and cleanup operations. The Installation Restoration program will clean up only a small portion of this site, including a now-evaporated washout pond and the ditch that carried wastewater to it, and any UXO that is found incidental to the cleanup of the pond and the ditch.

The metals-contaminated soil is being addressed under TEAD-58 (SWMU 42).

Work will be accomplished with CERCLA requirements, stakeholders involved in development and review of plan to include private land owners, Army, EPA, State DERR and DSHW.

STATUS

REGULATORY DRIVER: CERCLA

RAC SCORE: 1 – High

CONTAMINANTS OF CONCERN:
MEC

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
PA	200207	200305
SI	200509	200610
RI/FS	201010	201109
RD	201510	201609
RA(C)	201610	201709
RA(O)	201710	203209
LTM	203210	204709

RIP: 201710
RC: 203209

CLEANUP STRATEGY

Additional investigation is planned. Remedial actions may be needed.

MMRP Schedule

Initiation of MMRP: 2003

Past Phase Completion Milestones
PA completed installation wide 2003

Projected ROD/DD Approval Dates: 2015+

Projected Construction Completion: 2017

Schedule for Five Year Reviews: 2007

Estimated Completion Date of MMRP including LTM: 2047

Tooele Army Depot MMRP Schedule

(Based on current funding)

AEDB-R #	Phase	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
TEAD-001-R-01	RIFS									
	RD									201509
	RA(C)									201709
	LTM									204709
TEAD-002-R-01	RIFS									
	RD									201609
	RA(C)									201709
	RA(0)									203209
	LTM									204709
TEAD-003-R-01	RIFS									
	RD									201609
	RA(C)									201709
	RA(O)									203209
	LTM									204709
TEAD-004-R-01	RIFS									
	RD									201609
	RA(C)									201709
	LTM									204709
TEAD-005-R-01	RIFS									
	RD									201609
	RA(C)									201709
	RA(O)									203209
	LTM									204709

Prior Years Funds

Total Funding up to FY04: **$0**

Year	Site Information	Expenditures	FY Total
FY05	SI		$281K

Total Prior Years Funding: $ 281K

Current Year Funds

Year	Site Information	Expenditures	FY Total
FY06	SI		$29K

Total Future Requirements: **$29,230K**

Total MMR Program Cost *(from inception to completion of the IRP):* **$29,540K**

TOOELE ARMY DEPOT

BRAC Installation Restoration Program

Total AEDB-R BRAC Sites / AEDB-R Sites with No Further Action: 29/16

AEDB-R Site Types:

1 Above Ground Storage Tank
1 Chemical Disposal
1 Disposal Pit/Dry Well
1 Firing Range
1 Industrial Discharge
1 Soil Contamination after Tank Removal
2 Spill Site Area
1 Underground Storage Tank
1 Contaminated Soil Piles
2 Drainage Ditch
10 Storage Area
1 Small Arms Range
2 Surface Impoundment/Lagoon
2 Waste Treatment Plant
2 Waste Lines

Most Widespread Contaminants Of Concern: VOCs, SVOCs, Metals, PCBs, and Petroleum Constituents

Media Of Concern: Soil and Ground Water

Completed REM/IRA/RA:

TEAD-08, RAD Storage Building 659 – RA Building Decontamination (1999)
TEAD-101, Industrial Area Ground Water Sources – IRA Building 679 Sump Removal (2002)
TEAD-101, Industrial Area Ground Water Sources – IRA Ground Water Mgmt Area (2004)
TEAD-97, Transformer Storage Building 659 – RA Building Decontamination (1999)
TEAD-70A, Used Oil Dumpsters – RA Soil Removal (2002)
TEAD-85, Storm Water/Industrial Waste Water – RA Soil Removal (2002)
TEAD-88, Charcoal Spreading Area – RA Soil Removal (2002)
TEAD-90, Sandblast Area – IRA Site Fencing (1998)
TEAD-90, Sandblast Area – RA Soil Removal (2002)
TEAD-94, Skeet Range – IRA Site Fencing (1998)
TEAD-94, Skeet Range – RA Soil Removal (2002)
TEAD-96, Building 611 Firing Range – RA Soil Removal and Building Demolition (1998)
TEAD-93, Gravel Pit Disposal Area – Site Fencing (1998)

Total BRAC Funding:

Prior Year (up to FY05):	$108,828.41K (Active + BRAC)
Current (FY06):	$ 811K
Future Requirements:	$ 7,195K
Total:	$116,834.41K

Duration of BRAC IRP:

Year of BRAC IRP Inception:	1993
Year of RIP/RC Completion:	2009/2012
Year of BRAC IRP Completion:	2035

BRAC Contamination Assessment

Assessment Overview:

In 1993, the Base Realignment and Closure (BRAC) Commission recommended the realignment of the Tooele Army Depot (TEAD) equipment and vehicle maintenance mission with the installation retaining its conventional ammunition storage, maintenance, and demilitarization missions. The installation also retained its mission of design, testing, and manufacturing of ammunition peculiar equipment. As a result of the realignment, approximately 1700 acres, and over 200 buildings/facilities were excessed.

At the time of realignment, there were 16 restoration sites located on the excessed property. An additional 13 sites were identified subsequent to the BRAC action and added to the restoration program. Site types included industrial sites, underground storage tanks, burn areas, drain fields, and spill sites. Contaminants known to exist on the excessed property consisted primarily of solvents, metals, PCBs, and petroleum constituents. Media impacted by these contaminants included surface soil, subsurface soil, and ground water.

In 1994, TEAD formed a Restoration Advisory Board (RAB). Public interest in restoration activities associated with the excess BRAC property has been limited. Also in 1994, TEAD formed a BRAC Cleanup Team (BCT) consisting of representatives from the Army, State of Utah, and the U.S. Environmental Protection Agency, Region 8. The BCT has been very proactive in structuring the cleanup program to facilitate redevelopment and reuse of the property.

In 1998, the excess property was transferred to the Tooele City Redevelopment Agency (RDA) through the BRAC Early Transfer Authority on a no cost economic development conveyance. In 1999, the Tooele City RDA subsequently sold the property to be developed as a commercial industrial park. To ensure that on-going restoration activities did not adversely impact redevelopment, Covenants, Conditions, and Restrictions (CCRs) were applied to the property that have been used to manage the use of the property, during completion of site restoration.

To date, all required response actions have been completed on 27 of the 29 sites located on the property. Two sites remain open, TEAD-93 (Gravel Pit Disposal Area) and TEAD-101 (Industrial Area Ground Water Sources and Northeast Boundary Plume). Required response actions at TEAD-93 are planned for completion in FY07. Investigations are on-going at TEAD-101. TEAD-101 consists of potential ground water contaminant sources located throughout the former TEAD industrial area, and a solvent contaminated ground water plume which has migrated off-site and underlies property owned by several private parties.

Cleanup Exit Strategy:

All parcels have been transferred under the Early Transfer Authority. All required response actions on parcels designated as “Admin 1” and “Industrial 1-CMF” have been completed. Remaining response actions on the parcel designated as “Industrial 1-Maintenance” consist of the excavation and off-site disposal of contaminated soil at TEAD-93, and the completion of site characterization and selection of corrective measures at TEAD-101. It is assumed that corrective measures implemented at TEAD-101 will consist

of soil vapor extraction at contaminant source areas, and ground water treatment near the source areas for a period of 3 years, followed by monitoring and natural attenuation.

1996

- SAIC: SWMU 58 Phase II RCRA Facility Investigation Report for Group B SWMUs: June

1998

- URS: Group B Suspected Releases Corrective Measures Study Workplan: April
- URS: Group C Suspected Releases Corrective Measures Study Workplan: July

2000

- TEAD: Decision Document for No Action, Group C Solid Waste Management Units: October
- TEAD: Decision Document for No Action, Group B Solid Waste Management Units: November
- URS: Decision Document for Corrective Action, Group B Solid Waste Management Units: November
- URS: Group B Suspected Releases Corrective Measures Study Report: December

2001

- URS: Decision Document for Corrective Action, Group C Solid Waste Management Units: January
- URS: Group C Suspected Releases Corrective Measures Study Report: July

2002

- Kleinfelder: SWMU 58 Phase I RCRA Facility Investigation, On-site Plume and Sources: March
- USACE: SWMU 49 Corrective Measures Workplan: March
- Northwind: SWMU 49, Corrective Measures Construction Completion Report:
- March
- TEAD: Decision Document for Landfill Debris Relocation: May
- Kleinfelder/AEEC: Building 679 Sump Removal Workplan: June
- USACE: SWMU 52C Corrective Measure Workplan: July
- TEAD: Record of Decision for Operable Unit 4: October
- USACE: SWMU 52D Corrective Measures Workplan: October

2003

- Parsons: SWMU 58 Phase I RCRA Facility Investigation, Off-site Plume: March
- AEEC: Building 679 Sump Removal Completion Report: October

2004

- Parsons: SWMU 58, Interim Action, Ground Water Management Area Implementation Plan: March
- SCA/Laguana: SWMU 52D Corrective Measures Construction Completion Report: April
- Parsons: SWMU 58 Phase II RCRA Facility Investigation Workplan: August
- USACE: SWMU 49 Corrective Measures Construction Completion Report: August

2005

- TEAD: Remedial Design Plan for Institutional Controls at OU 5: February
- Parsons: SWMU 58, Supplement Risk Assessment for Exposure to VOCs in
- Shallow Soil: February
- Parsons: SWMU 58 Risk Assumptions Document: March
- TEAD: Remedial Design Plan for ICs at Operable Unit 7: February

Transfer Summary

Total Installation Acres: 24,732 Acres

BRAC Acres: 1663 Acres

Parcel Name: Admin 1
Recipient Organization: Tooele City Redevelopment Agency
Acres: 465
Transfer strategy: Transfer Outside of Federal Government
Current land use: Commercial/Administrative
Future land use: Commercial/Residential
Transfer date: 19981218

Parcel Name: Industrial 1 - CMF
Recipient Organization: Tooele City Redevelopment Agency
Acres: 41
Transfer strategy: Transfer Outside of Federal Government
Current land use: Industrial/Commercial
Future land use: Industrial/Commercial
Transfer date: 19960815

Parcel Name: Industrial 2 - Maintenance
Recipient Organization: Tooele City Redevelopment Agency
Acres: 1157
Transfer strategy: Transfer Outside of Federal Government
Current land use: Industrial/Commercial
Future land use: Industrial/Commercial
Transfer date: 19981218

TOOELE ARMY DEPOT

BRAC

Site Descriptions

TEAD-03, SWMU 31
TRANSFORMER STORAGE SITE

SITE DESCRIPTION

This site was used for temporary storage of PCB transformers from 1979 to 1980. The site is a flat gravel covered area, measuring 625 feet by 300 feet. No leaks or spills of PCBs were reported during the short-term storage of transformers on the site. Investigations were conducted to determine if soil contamination resulted from the storage of transformers. No PCBs were detected in soils. SVOCs were detected at levels below risk base standards for industrial use. Residual contamination remains on site that poses a risk to hypothetical future residents. The reasonably anticipated future use of the site is industrial. The remedy selected for the site consists of Land Use Controls (LUCs) in the form of deed restrictions. Deed restrictions have been placed on the site to prevent future residential development. An Implementation Plan for monitoring of LUCs has been prepared. Five year reviews will be required to ensure that the restrictions remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN: SVOCs

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI	198708	200002
RA	200502	200502
LTM	200308	203308

RC: 200308

CLEANUP STRATEGY

LTM consists of five year reviews and annual LUC inspections. Annual LUC inspections are conducted by installation staff, with reports due to regulatory agencies in October of each year. (No funding required).

TEAD-04, SWMU 4
SANDBLAST AREAS

SITE DESCRIPTION

SWMU 04 is located on the Base Realignment and Closure (BRAC) parcel, within the former TEAD industrial area. It includes sandblast areas outside Buildings 600, 615, and 617. Degreasing, sandblasting, paint stripping, and painting operations were conducted at these facilities. Degreasing wastes, as well as wastes from stripping and painting operations, were drummed and removed for offsite disposal. Residual contamination remains on the site that poses a risk to hypothetical future residents. The reasonably anticipated future use of the site is industrial. Corrective measures implemented at the site consist of Land Use Controls (LUCs) in the form of deed restrictions. Deed restrictions have been placed on the site to prevent future residential use and development. Site management will be required under TEADs RCRA Post Closure Monitoring and Corrective Action Permit to ensure that the restrictions remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: High

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200102
LTM	200102	203102

RC: 200102

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-07, SWMU 17
TRANFORMER STORAGE

SITE DESCRIPTION

This five acre unpaved storage lot was used for the storage of PCB transformers and capacitors. A ROD was signed at this site in 1994 requiring no further action. The first five year review indicates that under Utah's current risk rule, residual contamination (SVOCs) remaining on site pose a risk to hypothetical future residents. The reasonably anticipated future use of the site is industrial. Corrective action taken as a result of the five year review resulted in the implementation of Land Use Controls in the form of deed restrictions. Deed restrictions have been placed on the property to prevent future residential development of the site. An Implementation Plan for monitoring of LUCs has been prepared. Future five year reviews will be required to ensure that the restrictions remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN: SVOCs

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197912	198812
SI	197912	198812
RI/FS	198708	199409
LTM	200209	203209

RC: 199409

CLEANUP STRATEGY

LTM consists of five year reviews and annual LUC inspections. Annual LUC inspections are conducted by installation staff, with reports due to regulatory agencies in October of each year. (No funding required).

TEAD-20, SWMU 26
DRMO STORAGE YARD

SITE DESCRIPTION

The DRMO Storage Yard was a 66-acre area that was used for the temporary storage and subsequent disposal of military commodities. The site is located in the northeast section of the former Tooele Army Depot industrial area. The site is flat and unpaved, with fencing around the perimeter. Investigations were conducted to determine if these storage activities resulted in the release of contaminants to the environment. Metals were detected at levels below risk based standards for industrial use. Residual contaminants remain on the site that present an unacceptable risk to hypothetical future residents. The reasonably anticipated future use of the site is for industrial use. Corrective measures implemented at the site consist of Land Use Controls (LUCs) in the form of deed restrictions. Deed restrictions have been place on the site to prevent future residential use and development. Site management and post closure monitoring will be required under TEADs RCRA Post Closure Monitoring and Corrective Action Permit to ensure that the implemented corrective measures remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: Medium

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200102
LTM	200102	203102

RC: 200102

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-23, SWMU 29
DRUM STORAGE AREA

SITE DESCRIPTION

The Drum Storage Area was used to store empty drums. Drums were reportedly stored upside down to allow residual material to drain. The area is located in the southwest section of the former Tooele Army Depot industrial area. The site consists of two separate parcels. The northern parcel is a triangular shaped open unpaved area approximately 5 acres in size. The southern parcel consists of a 25 acre area covered in gravel and broken asphalt pavement. The southern parcel is surrounded by a perimeter fence. Investigations have been conducted to determine if storage of drums on the site resulted in the release of contaminants to the environment. Contaminants on the site were detected at levels below risk based standards for industrial use. Residual contaminants remain on the site that pose an unacceptable risk to hypothetical future residents. The reasonably anticipated future use of the site is industrial. Corrective measures implemented at the site consist of Land Use Controls (LUCs) in the form of deed restrictions. Deed restrictions have been place on the site to prevent future residential use and development. Site management and post closure monitoring will be required under TEADs RCRA Post Closure Monitoring and Corrective Action Permit to ensure that the implemented corrective measures remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: Low

CONTAMINANTS OF CONCERN: SVOCs

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200102
LTM	200102	203102

RC: 200102

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-70A, SWMU 46
USED OIL DUMPSTERS

SITE DESCRIPTION

The Used Oil Dumpsters were located at buildings 602, 611, and 619 in the former TEAD industrial area. The dumpsters were used for the collection of used oil from vehicle and equipment maintenance activities. The dumpsters were routinely emptied by a recycling contractor, and toe oil was taken off-site for disposal. Investigations were conducted to determine if these management practices resulted in the release of contaminants to the environment. At building 602, contaminants detected were below risk base standards for industrial workers and residential use. Total Petroleum Hydrocarbon (TPH) concentrations exceeded State of Utah Tier I screening levels. At building 611, contaminants detected were below risk based standards for industrial use. Residual contaminants remain on-site that pose an unacceptable risk for future hypothetical future residents. TPH concentrations at building 611 also exceed State of Utah screening levels. At building 619, contaminant concentrations detected were below risk based standards for industrial or residential use. TPH concentrations exceeded State of Utah Tier I screening levels. Corrective measures implemented at building 602 and 629 consisted of the excavation and off-site disposal of TPH contaminated soil. At building 611, the implemented corrective measures consisted of the excavation and off-site disposal of TPH contaminated soil, along with Land Use Controls (LUCs) in the form of deed restrictions. Deed restrictions have been place on the site to prevent future residential use and development. Site management and post closure monitoring will be required under TEADs RCRA Post Closure Monitoring and Corrective Action Permit to ensure that the implemented corrective measures remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: Low

CONTAMINANTS OF CONCERN: SVOCs

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	198812	200102
DES	200102	200110
CMI(C)	200110	200308
LTM	200308	203102

RC: 200308

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-85, SWMU 49
STORM (WATER)/INDUSTRIAL PIPING SYSTEM

SITE DESCRIPTION

Prior to 1988, all industrial waste water and storm water originating in the former TEAD industrial area were discharged to a common collection system. Investigations were conducted at this site to determine if leakage from the system occurred impacting soil and ground water. Contaminants detected on the site, with the exception of one outfall, were below risk based standards for industrial use. Contaminants detected at the Avenue G outfall, exceed risk based standards for industrial use. Residual contaminants remain on the entire site that pose an unacceptable risk to future hypothetical residents. Corrective measures implemented at the site consisted of the excavation and off-site disposal of contaminated soil at the Avenue G outfall, along with Land Use Controls (LUCs) in the form of deed restrictions on the entire site. Deed restrictions have been placed on the site to prevent future residential use and development. Site management and post closure monitoring will be required under TEADs RCRA Post Closure Monitoring and Corrective Action Permit to ensure that the implemented corrective measures remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: Low

CONTAMINANTS OF CONCERN: SVOCs, VOCs, Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	199505	200106
DES	200108	200208
CMI(C)	200208	200209
LTM	200412	203106

RC: 200209

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-86, SWMU 50
COMPRESSOR CONDENSATE

SITE DESCRIPTION

This site consists of two compressor condensate drains adjacent to buildings 613 and 619 located on the former TEAD industrial area. The drains were associated with large volume air compressors associated with vehicle and equipment manufacturing and rebuild. Investigations were conducted at both sites to determine if discharges to these drains had impacted soil and ground water. Contaminants detected on the site were detected at levels below risk based standards for industrial use. Residual contaminants remain on the site that pose an unacceptable risk to hypothetical future residents. The anticipated future use of the site is industrial, therefore corrective measures implemented at the site consisted of Land Use Controls (LUCs) in the form of deed restrictions. Deed restrictions have been placed on the site to prevent future residential use and development. Site management and post closure monitoring will be required under TEADs RCRA Post Closure Monitoring and Corrective Action Permit to ensure that the implemented corrective measures remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: NE

CONTAMINANTS OF CONCERN: SVOCs, VOCs, Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	199505	200106
LTM	200106	203106

RC: 200106

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-87, SWMU 51
CHROMIC ACID/ALODINE BEDS

SITE DESCRIPTION

This site consists of four concrete pads located south of the former Consolidated Maintenance Facility. The site was used during the 1970s, for drying and de-watering of chromic acid and alodine wastes. It was reported that the pads were used later, in the early 1980s to drain and flush fluids from radiators and engines. Investigations were conducted to determine if these activities had impacted soil and ground water at the site. Contaminants detected on the site were detected at levels below risk based standards for industrial use. Residual contaminants remain on the site that present an unacceptable risk to future hypothetical future residents. The reasonably anticipated future use of the site is industrial, therefore corrective measures implemented at the site consisted of Land Use Controls in the form of deed restrictions. Deed restrictions have been placed on the site to prevent future residential use and development. Site management and post closure monitoring will be required under TEADs RCRA Post Closure Monitoring and Corrective Action Permit to ensure that the implemented corrective measures remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: Medium

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	199505	200106
LTM	200106	203106

RC: 200106

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-88, SWMU 52B
DRAIN FIELD/DISPOSAL TRENCH

SITE DESCRIPTION

This site is located in the former TEAD administration area. The site consists of a long mounded trench, approximately 150 feet x 40 feet, and several smaller burial areas. Pieces of construction ruble and debris are present at the surface of the site and are buried throughout the area. Investigation of the site was conducted to determine if materials disposed of at the site had resulted in the contamination of soils. Contaminants detected on the site were detected at levels above risk based standards for future residents. The planned future use of the site is residential. Corrective measures implemented at the site consist of Land Use (LUCs) in the form of deed restrictions. Deed restrictions have been placed on the site to prevent excavation of subsurface soils at the site. Site management and post closure monitoring will be required under TEADs RCRA Post Closure Monitoring and Corrective Action Permit to ensure that the implemented corrective measures remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: Low

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	199505	200106
DES	200106	200208
CMI	200208	200312
LTM	200312	203106

RC: 200312

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-90, SWMU 54
SANDBLAST AREAS

SITE DESCRIPTION

This site is located in the former TEAD industrial area. The site includes three buildings where sandblasting occurred. The buildings were building 604, Power Train and Special Equipment Branch; building 611, Military Standard Engine and Small Generator Overhaul; and building 637, a former Engine Rebuild Facility. Three types of sandblast media (i.e. steel grit, walnut shells, and glass bead) were used. The spent medial was collected outside of the buildings in sealed hoppers. Investigations were conducted at each of the buildings to determine if these operations had resulted in the contamination of surrounding soil. Contaminants detected at building 604 were below risk based standards for both industrial and residential receptors. Contaminants detected at building 611 exceeded risk based standards for both industrial and residential receptors. Contaminants at building 637 were below risk based standards for industrial use, but exceeded the standards for residential use. Corrective measures were not required at building 604. Corrective measures implemented at building 611 consisted of the excavation and off-site disposal of contaminated soil, along with Land Use Controls (LUCs) in the form of deed restrictions. Corrective measures implemented at building 637 consisted of LUCs in the form of deed restrictions. Deed restrictions applied to the site are intended to prevent residential use and development of the site. Site management and post closure monitoring will be required in accordance with TEADs RCRA Post Closure Monitoring and Corrective Action Permit to ensure that the implemented corrective measures remain protective.

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: Medium

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI/CMS	199505	200108
IRA	199805	199808
DES	200108	200202
CMI(C)	200202	200209
LTM	200209	203106

RC: 200209

CLEANUP STRATEGY

LTM will consist of semi-annual LUC inspections. Semi-annual LUC inspections will be conducted by installation staff, with reports due to regulatory agencies in April and October of each year. (No funding will be required).

TEAD-93 SWMU 56
GRAVEL PIT

SITE DESCRIPTION

This site is located in the former TEAD industrial area. The site was used for the disposal of unidentified burned material. The site is a low-lying area, approximately 4 acres in size. The site is covered with residual piles of cobbles, vehicle components, and containers. Test pits were excavated and soil samples collected to determine if contaminants were released at the site, impacting surrounding soils. Contaminants on the site were detected at levels above risk based standards for future industrial and residential use. Corrective measures implemented at the site consist of the excavation and off-site disposal of contaminated soil (expected to be completed by summer 2007).

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: Medium

CONTAMINANTS OF CONCERN: Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
RFA	197912	198812
CS	197912	198812
RFI	199505	200108
DES	200108	200202
CMI	200202	200706

RC: 200706

CLEANUP STRATEGY

After the soil excavation is complete no further action is expected. (Funded previously)

TEAD-101 SWMU 58
INDUST AREA GROUNDWATER SOURCES

SITE DESCRIPTION

TEAD-101 is consists of a TCE contaminated groundwater plume, and several groundwater contaminant source areas located within the former TEAD industrial area. A portion of the plume extends beyond the former TEAD industrial area boundary and underlies adjacent private property parcels. In 1999 through 2001, a Phase I RCRA Facility Investigation was completed that included an on-site and off-site soil and groundwater investigation. The on-site investigation included a passive soil gas survey to identify potential source areas, and the installation of ground water monitoring wells to define the on-site nature and extend of ground water contamination. The off-site investigation included the installation of monitoring wells on private property adjacent to the former TEAD industrial area. These wells roughly defined the limits of the groundwater plume to approximately 5ug/l. A Phase II RCRA Facility Investigation is currently underway to further define source areas as well as the extent of groundwater contamination. In 2004, TEAD in association with the Tooele County Board of Health and Utah Division of Water Rights established a Ground Water Management Area which encompasses the off-site portion of the plume. Through this management area, access to and use of the groundwater is prohibited for domestic use.

STATUS

PROGRAM: IR

REGULATORY DRIVER: RCRA(C)

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
RFA	199605	199803
RFI/CMS	199808	200712
IRA	200308	200405
DES	200801	200809
CMI(C)	200810	200909
CMI(O)	200910	201209
LTM	201210	203508

RIP: 200910
RC: 201209

CLEANUP STRATEGY

The Phase II RCRA Facility investigation was initiated in 2004, and is expected to continue through 2006. Upon completion of the investigation, a risk assessment will be completed to identity potential receptor risks. Based on the results of the risk assessment, a Corrective Measures Study will be completed to evaluate and select corrective measures to be implemented at the site. It is assumed that two soil vapor extraction systems (Bldg 615 and 679) and 3 new groundwater extraction wells will be required, in addition to groundwater monitoring.

No Further Action BRAC Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
TEAD-08 SWMU 18	RAD Storage, Bldg 659	Record of Decision, OUs 5, 6, 7 and 10	199409
TEAD-19 SWMU 9	RAD Waste Storage	Record of Decision, OUs 5, 6, 7 and 10	199409
TEAD-22 SWMU 28	90 Day Storage Yard	Decision Document, Group B No Action SWMUs	199710
TEAD-24 SWMU 30	Industrial Waste Lagoon (BRAC Parcel)	Decision Document, Known Release SWMUs 3, 11, 25 and 30	200106
TEAD-25 SWMU 32	PCB Spill Site	Record of Decision, OU 4	200212
TEAD-26 SWMU 33	PCB Storage, Building 659	Record of Decision, OUs 5, 6, 7 and 10	199409
TEAD-30 SWMU 38	Industrial Waste Water Treatment Facility	Decision Document, Group B No Action SWMUs	199710
TEAD-32 SWMU 39	Solvent Recovery Facility	Decision Document, Group B No Action SWMUs	199710
TEAD-69 SWMU 47	Boiler Blown-Down	Decision Document, Group B No Action SWMUs	199710
TEAD-82 SWMU 44	TCE Storage Tank	Decision Document, Group B No Action SWMUs	199710
TEAD-89 SWMU 53	PCB Storage/Spill Site	Decision Document, Group C No Action SWMUs	200202
TEAD-91 SWMU 55	Battery Shop, Bldg 618	Decision Document, Group C No Action SWMUs	200202
TEAD-94 SWMU 57	Skeet Range	Decision Document, Group C Corrective Action SWMUs	200202
TEAD-95	Underground Storage Tank Sites	n/a	n/a
TEAD-96	Building 611, Firing Range	n/a	n/a
TEAD-97	Transformer Storage Facility, Bldg. 659	n/a	n/a

Schedule

Past Phase Completion Milestones for IRP, MMRP and Closure Related Compliance:

See IRP Section

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates and Associated Sites: 2006

Projected Construction Completion Date of IRP: 2006

Schedule for 5 Year Reviews: 2007

Estimated Completion Date of Cleanup at Installation (including LTM Phase): 2035

Tooele Army Depot BRAC Schedule

(Based on current funding)

AEDB-R #	Phase	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
TEAD-03	LTM									203308
TEAD-07	LTM									203209
TEAD-101	RFI/CMS									
	DES									
	CMI(C)									
	CMI(O)									
	LTM									203508

Prior Year Funds

Total Funding up to FY04: **$ 103,492K (this amount includes BRAC and Active)**

FY05 BRAC Prior Year Funds

Site Information		Expenditures	FY Total
TEAD-101	RI	$1,714K	
TEAD-93	RAC	$ 729K	
	PM	$ 112K	**$2,555K (BRAC)**

FY05 Active Prior Year Funds: $2,781.41K

Total Prior Year Funds: $108,828.41K (BRAC + Active)

Current Year (FY06) Requirements (BRAC)

Site Information		Expenditures	FY Total
TEAD-101	RI	$705K	
	PM	$106K	**$ 811K (BRAC)**

Total Future Requirements: **$7,195K (BRAC)**

Total Program Cost *(from inception to completion of the IRP):* **$142,815.41K (BRAC + Active)**

Status of Community Involvement

The Tooele Army Depot maintains an active community involvement program through quarterly Technical Review Committee Meetings to address the on-going IRP Program. These meetings are public meetings and are advertised in the local newspaper as well as through the mailing of notices to those individuals on Tooele Army Depot's mailing list. Even though the public is invited, typically there is minimal participation by the public. Those that typically attend the meetings are from state, federal, and local agencies.

Determining Interest in Establishing A RAB

Tooele Army Depot formed a RAB to address issues relating to restoration efforts on excess property resulting from the BRAC 93 decision to realign Tooele Army Depot's maintenance mission. This RAB was formed separately from the TRC and Tooele Army Depot felt that it would be better to address BRAC and IRP issues separately. The BRAC RAB was formed in 1994 and included 18 members. These members represented local, state, and federal agencies, as well as the Army and the public. The RAB included 18 public members. In an effort to stimulate more interest in the on-going IRP program, the BRAC RAB was combined with the TRC in 1999. RABs are conducted three times per year.